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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,462	01/09/2002	Noriyuki Koyama	0717-0488P	2572

2292 7590 12/16/2003

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EXAMINER

LANEAU, RONALD

ART UNIT PAPER NUMBER

2674

DATE MAILED: 12/16/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/040,462

Applicant(s)

KOYAMA, NORIYUKI

Examiner

Ronald Laneau

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hitchcock (US 6,236,390).

As per claims 1, 5, and 6, Koyama et al teach a character display apparatus including a display device having a plurality of pixels and a control section for controlling the display device. Each of the pixels includes a plurality of sub-pixels arranged along a predetermined direction. A corresponding one of a plurality of color elements is pre-assigned to each of the sub-pixels (see abs.). Further, the control section sets a color element of at least one particular sub-pixel corresponding to a basic portion of a character to be displayed on the display device to a predetermined color element level, and sets a color element level of at least one other sub-pixel adjacent to the at least one particular sub-pixel corresponding to the basic portion of the character to a color element level other than the predetermined color element level (col. 2, lines 21-29). Furthermore, Koyama et al teach each dot of a character to be displayed on the display device is associated with one of the sub-pixels 14R, 14G, 14B included in the pixel 12 (col. 9, lines 67 to col. 10, lines 2, fig. 4). Koyama et al do not teach conversion of the first bit map so as to generate a second bit map which represents a basic portion of the italic character but Hitchcock teaches methods and apparatus for positioning displayed characters having a bit map

character image representation generated by the scan conversion which involves sampling an image to be represented as a bitmap and generating luminous intensity values from the sampled values (col. 12, lines 15-16 and lines 30-33, fig. 3). Both Koyama et al and Hitchcock do not teach displaying an italic character but Applicant's Admitted Prior Art (AAPA) discloses that italic characters are widely used for the purpose of displaying characters in an emphasized manner (page 1, lines 11-12).

It would have been obvious to one of ordinary skill in the art to utilize the bitmap character representation as taught by Hitchcock into the device of Koyama et al because it would improve character positioning through the use of sub-pixel precision without affecting the formatting of existing documents (col. 4, lines 60-64). And it would have been obvious to one of ordinary skill in the art to utilize the known method of displaying italic characters as disclosed in the AAPA into the combined device of Koyama et al and Hitchcock because it would allow a user to actually see an improved display displaying the italic characters on the screen.

Allowable Subject Matter

3. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 2, a character display apparatus wherein:

the intensity of each of the plurality of color elements is represented by a plurality of color element levels in a stepwise fashion;

each of the plurality of sub-pixels has one of the plurality of color element levels;

the control section sets a color element level of the at least one specific sub-pixel corresponding to the basic portion of the italic character to a predetermined color element level; and

the control section sets a color element level of at least one sub-pixel adjacent to the at least one specific sub-pixel corresponding to the basic portion of the italic character to a color element level different from the predetermined color element level.

As per claims 3 and 4, a character display apparatus wherein the second bit map is generated from the first bit map by shifting each dot forming the first bit map by a shift amount which is I proportion to a distance from a reference line running along the predetermined direction set in the first bit map to a dot.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Apley et al (US 4,959,801) teach a system and data structure for generating bitmap representation of characters and symbols from their outline representations.
- Hersch et al (US 5,796,409) teach a method for producing contrast-controlled grayscale characters).
- Kashioka (US 4,484,347) teaches a method of image transformation in a display device.
- Gibson (US 5,565,886) teaches a method and system for rapidly transmitting multicolor or gray scale display having multiple bits per pixel to a display device.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Laneau whose telephone number is 703-305-3973. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:00 PM or via email: ronald.laneau@uspto.gov.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached at 703-305-4709.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ronald Laneau
Examiner
Art Unit 2674

rl
December 5, 2003



RONALD LANEAU
EXAMINER
ART UNIT 2674
DEC 5 2003